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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	09/936,522	CUI ET AL.	
	Examiner	Art Unit	
	Insun Kang	2193	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) Responsive to communication(s) filed on 29 May 2007.
- 2a) This action is **FINAL**. 2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) Claim(s) 2-7,11-16 and 18-21 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) Claim(s) _____ is/are allowed.
- 6) Claim(s) 2-7,11-16 and 18-21 is/are rejected.
- 7) Claim(s) _____ is/are objected to.
- 8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on _____ is/are: a) accepted or b) objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) All b) Some * c) None of:
 1. Certified copies of the priority documents have been received.
 2. Certified copies of the priority documents have been received in Application No. _____.
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) <input type="checkbox"/> Notice of References Cited (PTO-892)	4) <input type="checkbox"/> Interview Summary (PTO-413)
2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)	Paper No(s)/Mail Date. _____
3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)	5) <input type="checkbox"/> Notice of Informal Patent Application
Paper No(s)/Mail Date _____.	6) <input type="checkbox"/> Other: _____.

DETAILED ACTION

1. This action is in response to the RCE amendment filed 5/29/2007.
2. As per applicant's request, claims 2-7 and 11-16 have been amended, claims 20 and 21 have been added, and claim 1 and 10 have been canceled. Claims 2-7, 11-16, and 18-21 are pending in the application.

Specification

3. The disclosure is objected to because of the following informalities:

The disclosure is objected to because it contains an embedded hyperlink and/or other form of browser-executable code. Applicant is required to delete the embedded hyperlink and/or other form of browser-executable code. One example is shown in page 5, line 32. See MPEP § 608.01. Appropriate correction is required.

Claim Objections

4. Claims 2-7, 11-16, and 18-21 are objected to because of the following informalities:

Per claims 18 and 20, 'a' needs to be added to "data storage" in section i).

Per claims 20 and 21, "analysing" in line 1 needs to be corrected to analyzing.

As per claims 2-7, 11-16, and 19, these claims are rejected for dependency on the above rejected parent claims 18, 20, and 21.

Appropriate correction is required.

Claim Rejections - 35 USC § 112

5. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

6. Claims 2-7, 11-16, 20, and 21 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 20 recites the limitations "the performance data inputs" in page 7, line 3 and "the said data stores" in page 7, line 6. There is insufficient antecedent basis for these limitations in the claim.

Per claims 20, it is unclear to which multi-agent system it is referring in line 11, page 6. It is interpreted as: the multi-agent system.

Claim 21 recites the limitations "the performance data inputs" in page 8, line 7 and "the said data stores" in page 8, line 10. There is insufficient antecedent basis for these limitations in the claim.

Per claims 21, it is unclear to which multi-agent system it is referring in line 1, page 8. It is interpreted as: the multi-agent system.

As per claims 2-7 and 11-16, these claims are rejected for dependency on the above rejected parent claims 20 and 21.

Double Patenting

7. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re*

Goodman, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

8. Claims 2-7, 11-16, and 18-21 are rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims of U.S. Patent No. 7,155,715 ('715) in view of O'Brien et al. ("Agents of change in business process management," BT Technol J. 1996) hereafter O'Brien.

The following example is given:

Per claim 20:

Patent '715 recites a performance analysis system for use in storing and analyzing data generated during use of multi-agent business process management systems, said performance analysis system having a performance analysis service definitions, a performance analysis service identifier, performance data inputs, performance data analyzer (i.e. claim 6).

The instant claim does not explicitly recite a performance visualization system recited in patent '715. However, O'Brien teaches that such a visualization system was known in the pertinent art, at the time applicant's invention was made, to "provide the means of displaying agent communication and interaction (i.e. page 138, right col., last paragraph)." It would have been obvious for one having ordinary skill in the art to modify the instant claim to incorporate

the teachings of O'Brien. The modification would be obvious because one having ordinary skill in the art would be motivated to display the performance data from agents interaction for a user (i.e. page 138, right col., last paragraph) as suggested by O'Brien.

Claim Rejections - 35 USC § 103

9. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

10. Claims 2-7, 11-16, and 18-21 are rejected under 35 U.S.C. 102(a) as being anticipated by Marazakis et al. (Management of Work Sessions in Dynamic Open environments, 8/1998) hereinafter referred to as "Marazakis" in view of O'Brien et al. ("Agents of change in business process management," BT Technol J. 1996) hereafter O'Brien.

Per claim 18:

Marazakis discloses:

-a performance analysis system for use in storing and analyzing data generated during use of a workflow management system (ie. "Aurora architecture...for work session management...business performance guarantees," page 2, left col. Lines 6-19; "Aurora provides a repository service for managing the metadata... resources to tasks," page 2, right col., first paragraph, lines 1-7)

Marazakis teaches the workflow management system assigning tasks to agents according to the workflow specification (i.e. "assigning tasks to agents," abstract; page 5 second paragraph of the left column). Marazakis does not explicitly teach the system is a multi-agent system comprising a plurality of collaborative agents arranged in operation to manage among themselves resources to carry out processes to provide one or more services. However, O'Brien clearly teaches that such multi-agent system was known in the pertinent art, at the time applicant's invention was made, to achieve collective goals that are difficult to accomplish by a single agent (i.e. "collaboration between customer and provider agents," page 134, Fig 1). It would have been obvious for one having ordinary skill in the art to modify Marazakis' disclosed system to incorporate the teaching of O'Brien. The modification would be obvious because one having ordinary skill in the art would be motivated to arrange the disclosed agents to work collaboratively towards a common goal as suggested by O'Brien (page 134).

Marazakis further discloses:

- said performance analysis system having: i) data storage for storing :a) collaboration data indicative of how said agents have organized the resources they represent in order to provide a service and resource performance data indicative of the performance of said resources in use when so organized (i.e. "Aurora provides a repository service for managing the metadata...their resources, requirements, and a binding service for dynamic binding of resources to tasks," page 2, right col., first paragraph, lines 1-7);
- one or more inputs for receiving a service request identifying a performance analysis service to be provided by the performance analysis system to the multi-agent system (i.e. "Management applications, acting as clients of the monitor service, may invoke the

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GetRecs... GetAllRecs methods in order to correlate log records... collecting performance-related data to identify bottlenecks... the producers of log records can provide sufficient state information," page 5 second paragraph of the left column)

- a performance analyzer for analyzing the collaboration data and resource performance data to generate a performance measure with respect to said resources as organized by said multi-agent system (i.e. "The Aurora monitor enables a client...to collect all log records about events of interest to the execution of a workflow...tracking the progress and current state of service flows," page 4, first paragraph of the right column);

Per claim 19:

The rejection of claim 18 is incorporated, and further, Marazakis teaches:

- representations of service agreements made between said agents, and said performance data indicates whether said service agreements have been met (i.e service-level agreements, page 3).

Per claim 20:

Marazakis teaches:

- data storage including a business service definitions store storing one or more business service definitions, each identifying at least one task involved in provision of a business service by at least one agent in one of workflow management systems (i.e. "assigning tasks to agents," abstract; page 5 second paragraph of the left column; "Aurora provides a repository service for managing the metadata...their resources, requirements, and a binding service for dynamic binding of resources to tasks," page 2, right col., first

paragraph, lines 1-7; “to retrieve either a specific record identified by its persistent key of type RECID,” page 5, left col., first paragraph);

Marazakis teaches the workflow management system assigning tasks to agents according to the workflow specification (i.e. “assigning tasks to agents,” abstract; page 5 second paragraph of the left column). Marazakis does not explicitly teach the system is a multi-agent system. However, O’Brien clearly teaches that such multi-agent system was known in the pertinent art, at the time applicant’s invention was made, to achieve collective goals that are difficult to accomplish by a single agent (i.e. “collaboration between customer and provider agents,” page 134, Fig 1). It would have been obvious for one having ordinary skill in the art to modify Marazakis’ disclosed system to incorporate the teaching of O’Brien. The modification would be obvious because one having ordinary skill in the art would be motivated to arrange the disclosed agents to work collaboratively towards a common goal as suggested by O’Brien (page 134).

Marazakis further discloses:

- a task allocation store storing task allocation data indicating tasks allocated to agents in said multi-agent system (i.e. “Keeping track of the activities of tasks is achieved by requiring each container to register with the logging system,” page 4, first paragraph of the right column);
- a task state store storing task state data (i.e. “tracking the progress and current state of service flows...maintaining the interaction history,” page 4, first paragraph of the right column);

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- a performance analysis service definitions store storing one or more performance analysis service definitions, each performance analysis service definition including an indication of performance data inputs required for provision of said performance analysis service (i.e. "collecting performance-related data to identify bottlenecks...the producers of log records can provide sufficient state information," page 5 second paragraph of the left column);
- one or more inputs for receiving a performance analysis service request from a multi-agent system, said request including a performance analysis service identifier (i.e. "Management applications, acting as clients of the monitor service, may invoke the GetRecs...GetAllRecs methods in order to correlate log records...collecting performance-related data to identify bottlenecks...the producers of log records can provide sufficient state information," page 5 second paragraph of the left column)
- request processing means arranged in operation to access a performance analysis service definition from the performance analysis service definitions store in accordance with the performance analysis service identifier contained in a received performance analysis service request; said data storage further comprising processes (i.e. "The query and correlation engine of the Aurora monitor...enables grouping of log records, gathered from multiple session managers, according to several criteria...to a given session participant," page 4, right col., last paragraph)
- a data input store for storing business service definitions, task allocation and task state data for storage in said data stores included within the performance data inputs indicated

to be required for the requested performance analysis service by the accessed performance analysis service definition (i.e. "log information about its own state and its interactions with others," page 4, right col., first paragraph)

- a performance analyzer for analyzing the performance data in said data stores to generate, and output to the multi-agent system, a performance measure with respect to the multi-agent system based on analysis of the stored data (i.e. "its monitoring mechanisms that allows each service provider to log information about its own state and its interactions with others, supports monitoring of pair-wise interactions between parties...The Aurora monitor enables a client...to collect all log records about events of interest to the execution of a workflow...tracking the progress and current state of service flows," page 4, first paragraph of the right column).

Per claim 2:

Marazakis further teaches:

- the task state data is maintainable during use of an identified multi-agent system in providing more than one instance of a service such that performance of at least one agent-managed resource may be analyzed with respect to each of said instances (i.e. "The Aurora monitor...to collect all log records about events...of a workflow. This infrastructure enables tracking the progress and current state of service flows, as well as maintaining the interaction history for each participant," page 4 first paragraph of the right column) as claimed.

Per claim 3:

Marazakis further teaches:

- the task state data is maintainable during use of an identified multi-agent system in providing instances of at least two different services, such that performance of at least one agent-managed resource may be analyzed with respect to each of said instances (“all log records about events of interest to the execution of a workflow...current state of service flows, as well as maintaining the interaction history for each participant,” col. 4, right col., lines 13-17) as claimed.

Per claim 4:

Marazakis further teaches:

- the performance analyzer measures the number of occurrences of a particular task state for agent-managed resources and the performance measure is determined according to whether the number of occurrences reaches a predetermined threshold (“level of performance of all entities involved in workflow processing be tracked and maintained according to predetermined levels,” page 1 first paragraph of the right column) as claimed.

Per claim 5:

Marazakis further teaches:

- the threshold comprises a percentage number of occurrences of said particular task state in relation to the number of occurrences of that task state plus other task states (page 4, right col., lines 17-26) as claimed.

Per claim 6:

Marazakis further teaches:

- the task states available to a agent-managed resource in carrying out an allocated process comprise at least failure and success (“collecting performance-related data to identify bottlenecks, as well as for enabling flexible recover and compensation in the event of failures that cause exceptions. Recovery and compensation are possible since the producers of log records can provide sufficient state information,” page 5, second paragraph of the left column) as claimed.

Per claim 7:

Marazakis further teaches:

- the data received from the multi-agent system in use includes a start time for provision of the relevant service and at least one of said task allocation data and said task state data also logs the time taken by at least one identified agent-managed resource to carry out a process (“Log records can simply define the start and end of steps in a session...the name of the resourced used, the start and ending time,” page 4 second paragraph of the right column) as claimed.

Per claims 11-16, they are the method versions of claims 2-7, respectively, and are rejected for the same reasons set forth in connection with the rejection of claims 2-7 above.

Per claim 21, this is the method version of claim 20, respectively, and is rejected for the same reasons set forth in connection with the rejection of claim 20 above.

Response to Arguments

11. Applicant's arguments filed on 5/29/2007 have been fully considered but they are not persuasive.

1) The applicant states that in claims 20 and 21, performance service analysis definitions are stored which indicate what data is required from a multi-agent system in order for the performance analysis system to be carry out the requested performance analysis service and different multi-agent systems to share the same performance analysis system (remark, page 9).

In response to the statement 1), these limitations are not recited in the claims. It is noted that the features upon which applicant relies are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

2) The applicant states that per claims 18-19, they relate to stored business process descriptions that are used by the performance analysis system in order to provide a performance measurement (remark, 10).

In response to the statement 2), In Marazakis, the log records related to service descriptions in the logging system are used for performance metrics (i.e. page 5, left col., last paragraph).

12. Any inquiry concerning this communication or earlier communications from the

examiner should be directed to Insun Kang whose telephone number is 571-272-3724. The examiner can normally be reached on M-F 8:30-5 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, MENG AI AN can be reached on 571-272-3756. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

I. Kang
Examiner



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